



TAE雅晶

序号Serial No. 2019010963

日期Date:2019-01-09

致TO: 深圳华强聚丰电子科技有限公司

产品ITEM: 石英晶体谐振器 QUARTZ CRYSTAL UNITS

型号TYPE: SMD-5032 4PIN SEAM (TXM48.000M4503LDCE-000T)

标称频率NOMINAL FREQUENCY: 48.000MHz /20PF +/-20PPM

请收到我们的规格书后，签字回传。
Please confirm you received this specification,sign and fax it to us.

Table with 2 columns and 2 rows for RECEIVING CONFIRMATION, including fields for DATE and RECEIVED.

浙江雅晶电子有限公司
ZheJiang ABEL Electron Co.,Ltd.

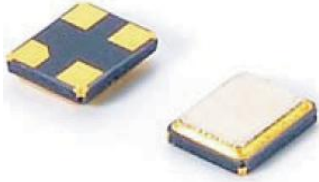
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RoHS Compliant Standard

T-5032

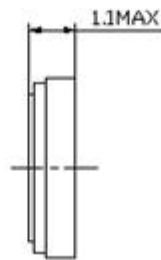
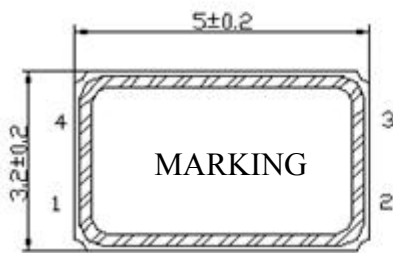


**Features 特性**

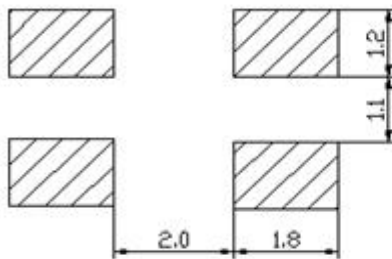
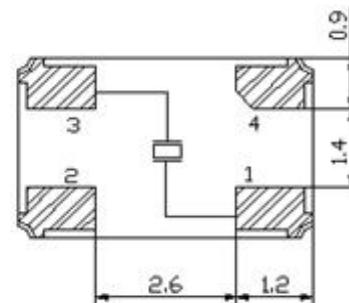
- Nominal Frequency 标称频率: 48.000MHz
- Suited for portable devices with low current consumption  
適合於低功耗的便攜設備
- For a clock source in electronic equipments 適用於电子設備的時鐘源

Item	Model	T5032	Conditions
Frequency Range	标称频率	48.000MHz	
Frequency Tolerance	調整頻差	±20ppm Max	at 25°C
Freq. Tol. Over Temp.	溫度頻差	±30ppm Max	-40~+85°C
Operating Temp. Range	工作溫度範圍	-40~+85°C	
Storage Temp. Range	保存溫度範圍	-40~+85°C	
Series Resistance	諧振電阻	30Ω Max	
Load Capacitance	負載電容	20PF	
Shunt Capacitance	靜態電容	7.0pF Max	
Drive Level	激勵電平	100µw Max	
Aging	老化率	±3ppm/year Max	
Insulation Resistance	絕緣阻抗	500Mohm/Min	DC100V±15V

**OUTLINE DIMENSIONS (unit: mm)**



Recommended land pattern



#2 and #4 are connected to the cover.(please connect to ground)

序号 NO	项目 ITEM	条件 CONDITIONS	合格标准 BASIS OF VERDICT
1	跌落 Drop	100cm高处自由跌落到3cm厚硬木板上,3次 High:100cm;Thickness:3cm;3 times	$\Delta FL \leq \pm 5\text{ppm}$ $\Delta RS \leq 5 \Omega \text{ or } \pm 15\%$ (whichever is larger)
2	振动 Vibration	频率 Frequency: 10~2000Hz; 加速度幅度 Acceleration: 100 m/s <sup>2</sup> 振动方向 Direction: X, Y, Z 振动时间 Duration: 每个方向30分钟 30 min/direction. 循环次数 Times: 12次	$\Delta FL \leq \pm 5\text{ppm}$ $\Delta RS \leq 5 \Omega \text{ or } \pm 15\%$ (Whichever is Larger)
3	热冲击 Thermal shock	-55°C~+125°C, 1000个循环 最大转换时间: 5分钟; 停留时间: 5分钟 -55°C~+125°C, For 1000 cycles Maximum conversion time: 5 minutes;Remain time:5 minutes	$\Delta FL \leq \pm 10\text{ppm}$ $\Delta RS \leq 5 \Omega \text{ or } \pm 20\%$ (Whichever is Larger)
4	湿热 Humidity	温度:85°C;湿度:85%;时间:1000小时 Temp:85°C;Humidity:85%;Times:1000h	$\Delta FL \leq \pm 10\text{ppm}$ $\Delta RS \leq 5 \Omega \text{ or } \pm 20\%$ (Whichever is Larger)
5	低温 Cold resistance	温度:-40°C;时间:1000小时 Temp:-40°C;Times:1000h	$\Delta FL \leq \pm 10\text{ppm}$ $\Delta RS \leq 5 \Omega \text{ or } \pm 20\%$ (Whichever is Larger)
6	湿度抗性 Humidity resistance	高温: 65°C (10小时, 含升温), 低温: 25°C (2小时, 含降温), 湿度90%, 循环10次, 每循环24小时 High-Temperature: 65°C ± 2°C (10 hours, including heating), Low-Temperature: 25°C ± 2°C (2 hours, including cooling), Humidity: 90%, for 10 cycles (24 hours/cycle)	$\Delta FL \leq \pm 10\text{ppm}$ $\Delta RS \leq 5 \Omega \text{ or } \pm 20\%$ (Whichever is Larger)
7	机械冲击 Mechanical shock	峰值 Peak: 100g's 持续时间 Duration: 6ms 波形 Waveform: 半正弦波 Half-sine 变化速度 Velocity Change: 12.3 ft / sec 振动方向 Direction: +X, -X, +Y, -Y, +Z, -Z 每个方向各3次 3 times/direction	$\Delta FL \leq \pm 5\text{ppm}$ $\Delta RS \leq 5 \Omega \text{ or } \pm 15\%$ (Whichever is Larger)

序号 NO	项目 ITEM	条件 CONDITIONS	合格标准 BASIS OF VERDICT
8	回流焊 Reflow	<p>260°C±5°C</p> <p>150°C±5°C</p> <p style="text-align: center;">CYCLE TIME周期: 200 sec Max.</p>	<p><math>\Delta FL \leq \pm 5 \text{ ppm}</math></p> <p><math>\Delta RS \leq 5 \Omega</math> or <math>\pm 15\%</math> (Whichever is Larger)</p> <p>No Rusty</p>
9	引脚拉力(SMD型) Pin pull	<p>按照要求分别提供1.8kg的切向推力（60秒）以及1.8kg的垂直拉力（60秒）</p> <p style="text-align: right;">In</p> <p>accordance with the requirements, offering 1.8kg tangential thrust (60 seconds), and 1.8kg vertical pull (60 seconds) respectively.</p>	<p>电极不断裂</p> <p>No Rupture Observed</p>
10	老化 Aging	<p>温度:85°C;时间:1000小时</p> <p>Temp:85°C;Times:1000h</p>	<p><math>\Delta FL \leq \pm 10 \text{ ppm}</math></p> <p><math>\Delta RS \leq 5 \Omega</math> or <math>\pm 10\%</math> (Whichever is Larger)</p>
11	可焊性 solderability	<p>温度: 235°C±5°C; 时间: 2秒</p> <p>Temperature: 235°C±5°C; Time: 2sec</p>	<p>浸锡率≥95%</p> <p>Solder Coverage≥95%</p>
备注	可靠性项目中的4、5、6、10，需在试验结束后24±2小时进行测试。		